ABSTRACT OF THE DISCLOSURE

Network transport management methods and tools are used to provide compositional service assembly and management such that processing (i.e., computing) capacity is handled in a manner analogous to handling transport quality of service. The memory, speed of operations, and input/output rates of a resource component are viewed as an aggregate bandwidth of transport. The distributed functional components of a compositional application/service are adapted to receive and process resource allocation requests. This allows the same network protocols and tools as are used for transport management to be used from a centrally located resource aggregator for composing (i.e., assembling) and allocating (i.e., assigning) computing resources with a guaranteed delivery rate.